direction that is perpendicular to the movement plane of the stages. This is supported in the original specification by, for example, sensor 16. See, for example, Figs. 1-4 and their corresponding description. Thus no new matter is added by the above amendments.

Applicants thank Examiner Natividad for the courtesies extended to Applicants' attorney at the August 29 interview. The substance of the interview is contained in the following remarks.

Claims 10-15 and 24 stand rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,523,841 to Nara et al. This rejection is respectfully traversed.

Nara et al. does not disclose or suggest that the amount of displacement of the movable stage is measured based upon the formula recited in claim 10 (previously in claim 11). During the interview, the Examiner appeared to assert that the basis for his rejection under §102 is that the various features not explicitly described by Nara et al. are inherent in Nara et al. In order for a feature to be inherent, the feature must necessarily be present in the reference; inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. Kennecott Corp. v. Kyocera Int'l Inc., 835 F.2d 1419, 1422, 1423, 5 USPQ2d 1197, 1198 (Fed. Cir. 1987). Applicants respectfully submit that the displacement amount measuring technique of claim 10 is not inherent in Nara et al. (i.e., it is not the only way that Nara et al. must work).

In addition, Nara et al. merely discloses using the measured value obtained by the interferometer which has been in operation as the "initial value" for the interferometer that recently switched to irradiating the stage (see, for example, col. 6, line 64 - col. 7, line 6 of Nara et al.), but Nara et al. does not disclose or suggest all the details recited in claim 10. In particular, Nara et al. does not disclose or suggest: (1) "a degree of interference of the one measurement axis is estimated from a measurement result of the another measurement axis" and (2) "an initial value of the one measurement axis is set on the basis of the estimated

degree of interference and a phase measured with the one measurement axis." Contrary to what was asserted by the Examiner during the interview, Applicants respectfully submit that such features would not be inherent in the Nara et al. system. That is, Nara et al. does not inherently set an initial value of a measurement axis in the manner recited in claim 10. Rather, as noted above, Nara et al. merely substitutes the value measured by the interferometer that has been operating as the initial value for the new interferometer. Thus, Nara et al. does not disclose the claimed signal processing system with which "a degree of interference of the one measurement axis is estimated from a measurement result for the another measurement axis, and an initial value of the one measurement axis is set on the basis of the estimated degree of interference and a phase measured with the one measurement axis." Accordingly, independent claim 10 and its dependent claims are not anticipated by, or rendered obvious over, Nara et al.

Claims 1-9, 16-23 and 25-30 stand rejected under 35 U.S.C. §103(a) over Nara et al. This rejection is respectfully traversed.

With respect to claim 1, Nara et al. does not disclose or suggest the claimed second measurement system that measures the amount of positional deviation or the degree of coincidence along a first direction that is perpendicular to the stage movement plane. The interferometers of Nara et al. measure parallel to the movement plane. Accordingly, claim 1 and its dependent claims are patentable over Nara et al. for at least this reason.

With respect to claim 2, Nara et al. does not disclose or suggest the claimed first measurement system that is capable of emitting a measurement beam to a mirror of each of the plurality of movable stages. Applicants respectfully disagree with the Examiner's assertion, made during the interview, that such an arrangement would result if a known system having a plurality of stages were modified in view of Nara et al. (or vice versa). Applicants respectfully submit that the Office Action's approach of taking "Official Notice"

of a particular feature missing from Nara et al. (i.e., providing a plurality of stages on a certain movement plane), and then making further assumptions about what would result from such a modification of Nara et al., is improper.

In this regard, Applicants respectfully submit that the Examiner must find a reference showing the feature of a plurality of stages on a movement plane, and then evaluate whether it would even be appropriate to combine the teachings of Nara et al. with such a reference (and then further determine whether the combinations of features recited in claims 1 and 2 would result when those two references are combined), rather than assuming that the claimed combinations would result even if the features missing from Nara et al. do exist in the prior art (which Applicants do not admit). In this regard, Applicants request the Examiner to rely upon a reference showing the plurality of stages on a certain movement plane rather than taking "Official Notice" with respect to that feature.

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe anything further would be desirable to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

Mario A. Costantino
Registration No. 33,565

MAC/ccs

Enclosures:
Appendix
Request For Continued Examination
Petition for Extension of Time

Date: September 30, 2002

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461

APPENDIX

Changes to Claims:

Claims 11 and 29 are canceled.

Claim 31 is added.

The following is a marked-up version of the amended claims:

1. (Amended) A stage device, comprising:

a plurality of movable stages disposed on a certain movement plane so as to be movable independently of each other;

a first measurement system which measures within a predetermined measurement range a position of one of the plurality of movable stages; and

a second measurement system which measures an amount of positional deviation of each of the plurality of movable stages from a predetermined reference position within the predetermined measurement range, or a degree of coincidence of each of the plurality of movable stages with respect to the reference position, the second measurement system measuring the amount of positional deviation or the degree of coincidence along a first direction that is perpendicular the certain movement plane;

wherein a measurement value obtained with the first measurement system is corrected on the basis of a measurement result of the second measurement system.

2. (Twice Amended) A stage device, comprising:

a plurality of movable stages disposed in a certain movement plane so as to be movable independently of each other;

a first measurement system which measures within a first measurement range a position of one of the plurality of movable stages, the first measurement system being capable of emitting a measurement beam to a mirror of each of the plurality of movable stages;

a second measurement system which continuously measures positions of the plurality of movable stages within a second measurement range partially overlapping the first measurement range; and

a control system which corrects the measurement results of the first and second measurement systems on the basis of the measurement results of the first and second measurement systems.

10. (Twice Amended) A stage device comprising:

a movable stage that is movable at a predetermined degree of freedom;

an interferometer system which measures an amount of displacement of the movable stage by directing a measurement light at the movable stage and causing a reflected light thereof to interfere with a reference light, wherein the interferometer system has a plurality of measurement axes of the measurement light and is disposed such that even if one of the plurality of measurement axes is not irradiating the movable stage, the amount of displacement can still be measured by another measurement axis; and

a signal processing system with which, when the one measurement axis changes from the state of not irradiating the movable stage to a state of irradiating the movable stage, a degree of interference of the one measurement axis is estimated from a measurement result for the another measurement axis, and an initial value of the one measurement axis is set on the basis of the estimated degree of interference and a phase measured with the one measurement axis;

wherein the interferometer system measures the amount of displacement of the movable stage in the form of $f(\lambda)\{N + \Phi/(2\pi)\}$ with each of the plurality of measurement axes, where $f(\lambda)$ is a function of the wavelength λ of the measurement light, N is an integer indicating the degree of interference, and Φ is the phase.